

INVESTIGATION OF LEPTOSPIRAL INFECTIONS IN SUSPECTED LEPTOSPIROSIS CASES

Uraiwan Kositanont¹, Waraluk Tangkanakul², Seng Heng³, Chuleeporn Jiraphongsa², Amornrut Leeporn¹, Duangporn Phulsuksombati⁴, Songsak Rugsasuk¹

1. Department of Microbiology, Faculty of Medicine Siriraj Hospital, Mahidol University, 2. Department of Disease Control, Ministry of Public Health, 3. Communicable Disease Control Department, Ministry of Health, Cambodia, 4. Department of Veterinary Medicine, Armed Forces Research Institute of Medical Sciences

ABSTRACT

Objective: To investigate the leptospiral infection in clinical specimens from suspected leptospirosis cases using serology and DNA detection.

Materials and Methods: Serum samples collected from 78 and 57 patients with suspected leptospirosis cases in Sakon Nakhon Province and Cambodia, respectively, were tested for leptospiral infections. Antibodies to leptospires by microscopic agglutination (MAT) using antigens from each of the 22 pathogenic serovars of *Leptospira interrogans* (sensu lato): australis, autumnalis, ballum, bangkok, bataviae, bratislava, canicola, celledoni, copenhageni, djasiman, grippityphosa, hardjo, hebdomadis, icterohaemorrhagiae, javanica, pomona, pyrogenes, rachamati, saigon, sejroe, tarassovi, and wolffi, and one non-pathogenic strain of *L. biflexa* serovar patoc. Leptospiral DNA was detected by polymerase chain reaction (PCR) using specific primers designed from bacterial 23S rDNA of leptospires.

Results: The incidences of leptospirosis in Sakon Nakhon Province, proven by MAT and PCR were 17 (22%) and 18 (23%), respectively. In Cambodia, 10 (18%) of 57 cases were positive by only PCR. Among 110 negative-MAT samples, 16 (15%) were found to be positive by PCR.

Conclusion: Leptospirosis diagnosed with positive results by either MAT or PCR or both tests, occurred in Sakon Nakhon Province and Cambodia, were 21 (27%) and 10 (18%), respectively. Use of PCR in adjunction to MAT, 15% of positive cases increased.

Supported by grants from Medical Biotechnology Center and Department of Disease Control, Ministry of Public Health, Thailand.

นำเสนอผลในการสัมมนาทางวิชาการ “รวมพลังผนึกความคิด พิชิตโรคติดต่อระหว่างสัตว์และคน” 4-6 กพ. 2547 จว.ภูเก็ต